

## **REMARKS**

### **I. Introduction**

Claims 18 to 25 are pending in the present application. In view of the preceding amendments and following remarks, it is respectfully submitted claims 18 to 25 are allowable, and reconsideration is respectfully requested.

Applicants thank the Examiner for acknowledging the receipt of the Information Disclosure Statement, PTO -1449 and references cited therein.

### **II. Rejection of Claims 18 to 25 under 35 U.S.C. §112, first paragraph**

Claims 18 to 25 were rejected under 35 U.S.C. §112, first paragraph as allegedly being based on a disclosure which is not enabling. The Office action states that it "appears essential" that the step of passing the aqueous solution through the quantity of ion exchange resin for the removal of thorium (claim 18, lines 2-3) be carried out both continuously and at a constant flow rate, since specification clearly indicates that these process condition are required to achieve the objects of the invention (see page 2, lines 15-16) and 19 to 20; page 3, lines 20 to 21); and page 4, line 1. The Office Action then alleges that claims 18 to 25 then fail to recite these essential process conditions, and are therefore not enabled by the disclosure according to the case of In re Mayhew, 527 F.2d 1229, 188 USPQ 356 (CCPA 1976).

Applicants respectfully submit that the reliance upon the In re Mayhew case in the current rejection under 35 U.S.C. §112, first paragraph is inconsistent with the facts in the present invention and that the rejection should be withdrawn.

The case of In re Mayhew relates to a process to continuously coat a steel strip by forming a molten galvanizing bath containing aluminum additions of up to 0.3% by weight, introducing heated steel strip into the molten galvanizing bath, the strip entering the bath being at a temperature higher than the temperature of the molten spelter in the bath thereby adding heat to the bath, maintaining molten galvanizing spelter in the bath at a temperature of approximately 890 degrees F to approximately 950 degrees F, moving the heater strip through the bath toward the exit side of the bath, forming an iron-zinc alloy coating on the moving strip by contacting the moving strip with

molten spelter at a temperature of approximately 890 degrees F to approximately 950 degrees F, delivering the strip from the exit side of the bath, the delivers strip having an inner iron-zinc alloy coating and an outer molten galvanizing spelter coating and directing gas under pressure against at least one side of the coated steel strip upon delivery of the coated steel strip from the molten galvanizing bath to remove the molten galvanizing spelter coating from the iron-zinc alloy coated steel strip on the one side.

The examiner and subsequently the court in In re Mayhew stated that some of the claims in the application were rejected under 35 U.S.C. §112, first paragraph because the **only mode** of operation for the process provided in the Mayhew specification required the use of a special cooling apparatus to cool the metal strip as it was processed through a section of the coating process. The claims, however, did not have a recitation to the special cooling apparatus. Specifically, the court in In re Mayhew stated that the claims should be read in light of the specification and should not be inconsistent with the specification. To support the arguments of the Examiner, the court stated that Mayhew's specification provides that the "strip ... and bath ... are raised in temperature above what is ordinarily considered optimum coating temperatures. This is practicable because of special cooling apparatus, specially located." Thus, the Mayhew specification specifically provided one embodiment which would satisfy this optimum coating temperature requirement, but the claims failed to recite the apparatus which would achieve this requirement.

The current specification and claims, however, are different from In re Mayhew. Claim 18 relates to a method for the pretreatment of an aqueous solution containing radioactive thorium prior to passing the aqueous solution through a quantity of ion exchange resin for removal of the thorium, comprising the steps of: diluting the aqueous solution with water; and removing organic material from the aqueous solution by filtering.

The specification of the current invention provides several modes of operation, one of which is recited in claim 18. Applicants submit that page 2, lines 14 to 15 provides that the invention includes an aqueous solution which passes through the ion exchange resin at a "substantially constant flow rate". By qualifying the flow rate with the phrase "substantially", the Applicant has

allowed for a fluctuating flow rate. Applicants furthermore submit that the plain meaning of the word "substantial", as provided in reputable dictionaries, also provides for support for the applicants arguments. The American Heritage Dictionary of the English Language, New College Edition, by Houghton Mifflin Company, defines the word "substantial" as "considerable in degree or amount". As a result, it is submitted that the specification does not preclude other flow rates, only that the flow rates are considerable in degree or amount. Thus, the flow rates may be varied as the plain definition allows.

Applicants furthermore submit that a selected flow rate is found in the specification at page 3 which states that the ion exchange resin type, amount of ion exchange resin and flow rate of the aqueous solution through the ion exchange resin are selected so that the thorium residence time on the ion exchange column is longer than its radiolytic decay time. Thus the key parameter is the amount of thorium that emerges from a column containing the ion exchange resin. As a result, the current application is applicable to more than one mode of operation, different than the requirements of In re Mayhew.

Applicants respectfully request withdrawal of the rejection to claim 18.

Claims 19 to 25 depend from claim 18 and therefore include all of the features of amended claim 18. Applicants respectfully submit that claims 19 to 25 are patentable for at least the reasons provided above in relation to claim 18.

### **III. Rejection of Claims 18 to 25 Under 35 U.S.C. §112, Second Paragraph**

Claims 18 to 25 were rejected under 35 U.S.C. §112, second paragraph as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Office Action states that the claims fail to recite that the ion exchange resin treatment is both continuous and operated at a substantially constant flow rate.

For the reasons provided above, Applicants respectfully submit that claims 18 to 25 are not indefinite in that the plain mean of the terms provided. As discussed above the specification of the current invention provides several

modes of operation, one of which is recited in claim 18. Applicants submit that page 2, lines 14 to 15 provides that the invention includes an aqueous solution which passes through the ion exchange resin at a "substantially constant flow rate". By qualifying the flow rate with the phrase "substantially", the Applicant has allowed for a fluctuating flow rate. Applicants furthermore submit that the plain meaning of the word "substantial", as provided in The American Heritage Dictionary of the English Language, New College Edition, by Houghton Mifflin Company, is "considerable in degree or amount". As a result, it is submitted that the specification does not preclude other flow rates, only that the flow rates are considerable in degree or amount. Thus, the flow rates may be varied as the plain definition allows.

As the claims are provided with terms that are clearly defined by the specification and within the meaning of such terms, Applicants respectfully request withdrawal of the rejections to claims 18 to 25


#### **IV. Conclusion**

It is therefore respectfully submitted that the pending claims are allowable. All issues raised by the Examiner have been addressed, and an early and favorable action on the merits is solicited.

Respectfully submitted,

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